

# MODULAR QUICK CHANGE SYSTEMS

BENZ Solidfix® | BENZ CAPTO™

Tooling technology

Metal | Wood | Composites machining



# BENZ GMBH WERKZEUGSYSTEME

At BENZ Werkzeugsysteme, our maxim, „Innovation. Precision. Passion.“ is far more than just a marketing formula. Rather, it describes the core goals of our business while also outlining the reasons why we have been able to compete in the market successfully with tool systems for woodworking, metal machining and composite material processing for more than 30 years.

Innovations are important to us. But we also recognize that they can be successful only if they precisely meet the needs of our customers. This is why we have maintained a strict focus on our customers for many years. We ensure that our developments and innovations simplify your production processes and lower your manufacturing costs – and ultimately improve your competitiveness as a result.

**INNOVATION.** With an eye on what is currently within the bounds of feasibility, we strive to always make use of innovative technologies. And we keep in close contact with our customers to ensure we already know today what our customers will need tomorrow. Technical progress is ingrained into our very identity, which means you can always find smart, detailed solutions in our product range.

**PRECISION.** We ensure our products have the highest level of precision and reliability. This is vital in our industry. Our customers also rely on absolute precision during production - and need to be able to put all their trust in us. But production is not the only area where we strive for precision. We also seek minimal tolerances and maximum accuracy in other areas as well - from development to sales to delivery.

**PASSION.** BENZ precision products are composed of a vast array of different individual parts. They are the result of great care that starts in the design phase and even includes the selection of raw materials. Primarily, however, they are the expression of our employee's experience and passion to do good work. We are tool specialists through and through and we are willing to move mountains to reach the perfect solution and to ensure the satisfaction of our customers.

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# SYSTEM BENEFITS

## BENZ SOLIDFIX® | BENZ CAPTO™

### An investment worth making

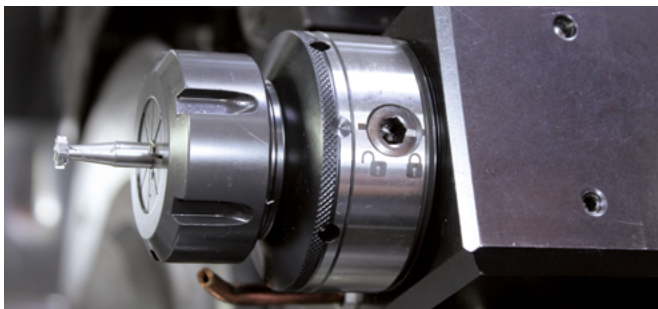
Beside higher rpms and higher accuracy the reduction of set up and machine down times is the main focus in the manufacturing industry. An important success factor is the integration of a modular tool interface.

The basic principle and the biggest advantage of modular tooling systems is that tools can be pre-set, set up and be ready for use on the machine by the operator, all while he is already in the process of machining other parts. The pre-set adapters then can be changed in a flash in the machine.

You as the customer increase the valuable production time of your machine while at the same time saving costs: Due to the modular design only the adapters are being changed - the base tool holder stays in the machine. This reduces the necessity of buying additional tools to a minimum.

With BENZ Solidfix® and BENZ CAPTO™ you have two of the most advanced and sophisticated modular quick change systems available to you.

### BENZ Solidfix®



### BENZ CAPTO™



## PERFORMANCE. PRECISION. HANDLING. SAFETY.



**Minimises setup and non-productive time / increases productivity**  
by changing the preset tool within seconds



**Low investment overhead,**  
because the angle head remains on the machine and only an adapter needs to be changed, fewer angle heads are needed overall



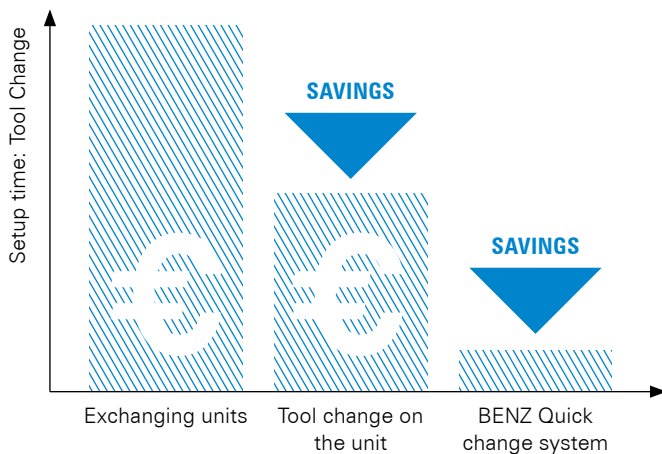
**Easy handling**  
One-hand operation without a special tool



**Operating safety**  
Cannot become detached accidentally



## SAVINGS WITH BENZ QUICK CHANGE SYSTEMS



### Reduce setup time = Save costs

Long machine standstill times arise for a tool change where the complete unit is taken out of the machine. By changing the cutting tool directly on the unit, setup times can already be reduced by 40%.

The optimum can be achieved with modular quick-change systems. Here the cutting tool is measured outside of the machine in the presetting device. Replacing the adapter therefore only requires a few seconds. You save 90% of your original setup costs! You also reduce your reject rate as the first part is already a good part.

## FIELD OF APPLICATION

### Can be used on all common machines.

Are you looking for a quick change system that can be used in all areas of your production? The modular Quick Change Systems made by BENZ can be used in Live Tools as well as right angle heads, even Multi-spindle heads.

BENZ Solidfix® and BENZ CAPTO™ are not only suited for large batch manufacturing but are especially cost effective when machines have to be re-tooled frequently due to manufacture of small lots or specialty parts. You save time and money.

Lathes

Machining centers



# MODULAR QUICK CHANGE SYSTEM

## BENZ SOLIDFIX®

### User friendly, stable and very precise

By combining taper concentricity with no backlash with an extremely large planar surface, combined with high torque, BENZ Solidfix® offers a maximum in stability and rigidity, which is even capable of withstanding the demands of milling. The high torque transmission and the highest possible rpms also stress the effectiveness.

This is supported by a special clamping mechanism which works centrally, without lateral forces, which in combination with the compact, highly precise components used achieves optimal values for concentricity, rigidity and accuracy in repeatability. Because of its compact design the system is ideal for tools with internal cooling.



## PRODUCT BENEFITS

### Performance

- compact design
- large planar contact surface
- high rigidity (milling capable)
- high transmission of torque
- high speed (balancing-neutral design)

### Precision

- high concentricity: < 5 µm auf 30 mm
- high repeatability
- central, cross-force-free transmission of forces
- play-free centering of taper

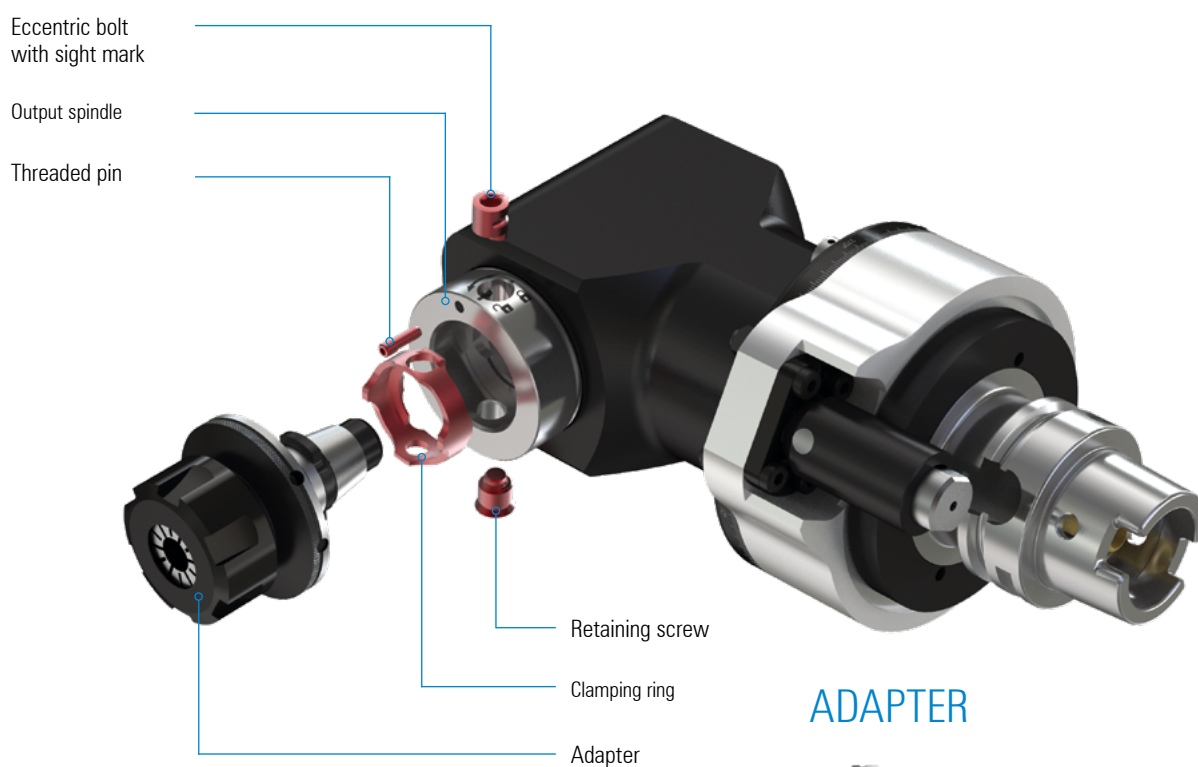
### Handling

- quick change, change in < 20 seconds
- one-hand operation
- simple handling without the need of special tools
- resistance controlled clamping (180°) - no need to observe torque
- ejection feature

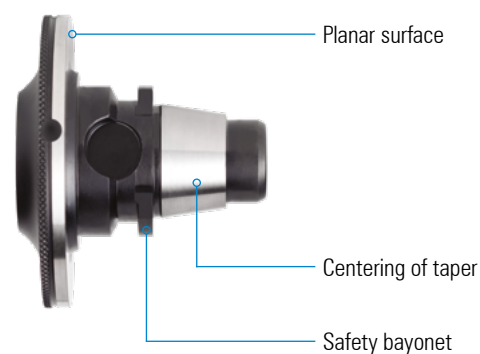
### Safety

- securing device via safety bayonet
- self-locking clamp function
- avoidance of operating errors
- fulfills machinery directive 2006/42/EG

## BENZ SOLIDFIX® - SYSTEM DESIGN



### ADAPTER



## SYSTEM OVERVIEW

Size	Technical data	
	T* [Nm]	Size Inbus wrench
S1	25	SW 3
S2	50	SW 4
S3	100	SW 5
S4	200	SW 6
S5	400	SW 6

\*transmittable torque of interface



IC-capable

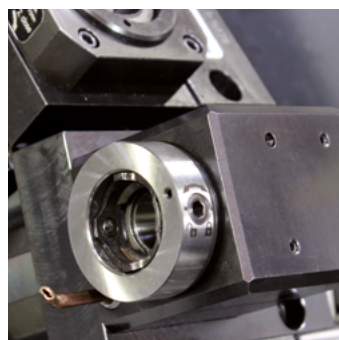


MQL-capable Adapter  
on request

# MODULAR QUICK CHANGE SYSTEM

## BENZ SOLIDFIX®

### TOOL CHANGE



#### Step 1: Familiarize yourself with the system

In order to change an adapter in the angle head/live tool the operation unit needs to be in the loosed position.



Loose position:  
Marking is sitting on open  
lock



Clamped position:  
Marking is sitting on closed  
lock



#### Step 2: Inserting the adapter

Insert the adapter into the tool spindle. The adapter cannot fall out due to a special safety mechanism which holds the tool in place, even if not clamped yet. This prevents injuries during set up of the tools in the machine.



#### Step 3: Resistance controlled clamping

The modular quick change system BENZ Solidfix® can be operated with just one hand without any special tools - a standard hex key is sufficient. By simply turning the clamping screw 180 degrees (up to its end position) the tool adapter (meaning the tool) is clamped.



#### Step 4: Loosening and changing the adapter

After loosening the locking mechanism with a hex key and turning the tool adapter 90 degrees (a bayonet style safety mechanism prevents the tool from falling out after opening the lock) the adapter can be removed.

A specialized eject feature ensures that the adapter does not get stuck in the spindle. The tool change can be done in less than 20 seconds.







# MODULAR QUICK CHANGE SYSTEM

## BENZ CAPTO™

### **Increase of efficiency and machining quality.**

The modular quick change system BENZ CAPTO™ guarantees an extremely compact design by being integrated into the spindle. Special clamping kinetics for clamping forces are noticeably below the required range of ISO/DIS 26623-2.

BENZ CAPTO™ can be used for milling, drilling and turning, with up to 100 bar coolant pressure. The system is especially suited for heavy duty milling and machining.



## PRODUKT BENEFITS

### **Performance**

- compact design/short implementation
- special clamping kinetics for clamping forces are noticeably below the required range of ISO/DIS 26623-2
- pressure of coolant up to 100 bar
- ideal for heavy milling

### **Precision**

- stability and rigidity with high flexibility at the same time
- compact shape guarantees high cutting speeds and surface quality

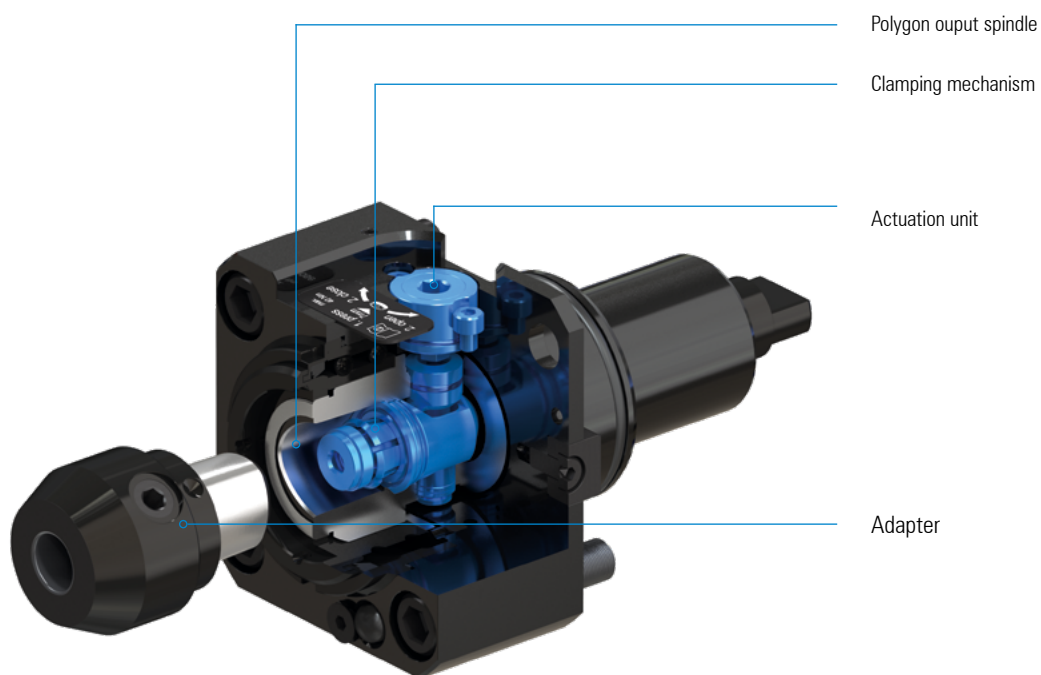
### **Handling**

- fast tool change with additional locking mechanism (ratcheted)
- optically visible clamping position 100°
- starting torque: 50 Nm (C4)

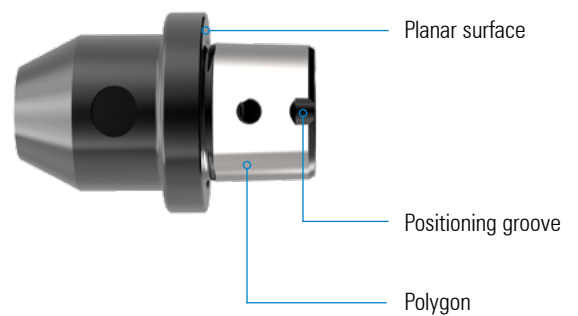
### **Safety**

- from 75 degrees onwards the clamping process is already so secure that the tool can be used in production
- visual markings > correct clamping of the tool is easily seen
- additional safety function > prevents uncontrolled falling out of the tool holder

## BENZ CAPTO™ - SYSTEM DESIGN



### ADAPTER



## SYSTEM OVERVIEW

Size	Technical data	
	T* [Nm]	Size Inbus wrench
C3	250	SW 6
C4	500	SW 8
C5	1000	SW 10
C6	2000	SW 12

\*transmittable torque of the polygon



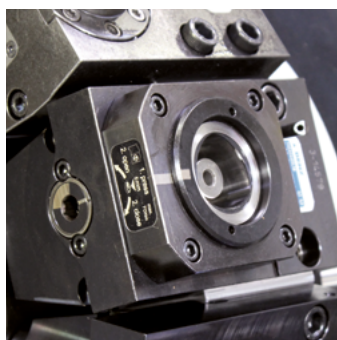
IC-capable



# MODULAR QUICK CHANGE SYSTEM

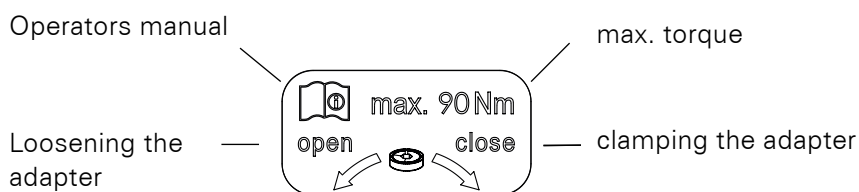
## BENZ CAPTO™

### TOOL CHANGE



#### Step 1: Familiarize yourself with the symbols

In order to change an adapter in the angle head/live tool the operation unit needs to be in the loosed position.



#### Step 2: Cleaning of tool holder with compressed air

Clean the tool insert. Please note: Only clean around the edges of the Polygon. Never blow air centrally into the clamping mechanism!



#### Step 3: Inserting the adapter

Inserting the adapter into the tool holder (in release position). The adapter is held in the base by a locking mechanism.



The locking mechanism holds the tool in the base



#### Step 4: Getting markings in a line

Align the marks on the housing to the spindle. The adapter is held in the base by a locking mechanism.

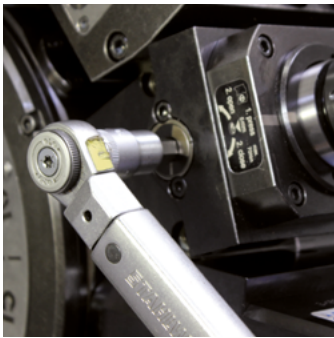
Note: this step is only necessary for Live Tools. Static BENZ CAPTO™ tools have a fixed polygon position.





#### **Step 5: Clamping of the adapter**

To do this press the mechanism and at the same time rotate by approx. 100 degree clockwise in the "close" direction. Optimal clamping force is achieved when applying the recommended torque. The tool is already clamped securely as soon as a 75 degree angle is achieved.



#### **Step 6: Loosening the adapter**

After the machining process, release the adapter again by first aligning the mark on the housing with the mark on the spindle. Then press the actuating unit. The adapter will be held in the tool after loosening until you take it out.

**Note for clamping and un-clamping:** for static BENZ CAPTO™ tools it is sufficient to simply rotate, no pressure needs to be applied.





# BENZ SOLIDFIX<sup>®</sup>

Adapters | Adjustment and Assembly Aid | Reducing sleeves

## BENZ SOLIDFIX®

	COLLET CHUCK 8° Typee ER	16		TAPPING CHUCK Emuge	17
	WELDON for parallel shanks DIN 1835B	17		WHISTLE-NOTCH for parallel shanks DIN 1835E	18
	MILLING ARBOR	18		SAW BLADE HOLER screwed on arbor	19
	SHRINK FIT CHUCK	19		SCREW-IN MILL CUTTER Basic holder	20
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	MOUNTING BLOCK	22		REDUCING SLEEVE	23
	BLANK	23		CLOSING PLUG	23



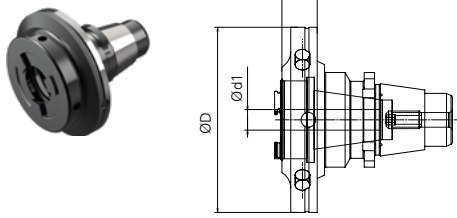
Further customer-specific adapters on request. Please contact our BENZ sales team.




# ADAPTER

## BENZ SOLIDFIX®

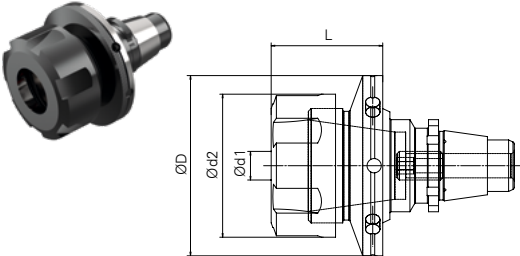
### COLLET CHUCK 8° TYPE ER | INTERNAL CLAMPING NUT

Model	Drawing	Technical data		ØD [mm]	Ød1 [mm]	L [mm]	Product center	Avail- ability	Order number
		Size	Type						
		S1	ER11	32	1-7	9	●	●	691.130E1A09
		S2	ER16	40	1-10	13	●	●	692.130E3A13
		S3	ER16	50	1-10	10	●	●	693.130E3A10
		S3	ER20	50	2-13	14	●	●	693.130E4A14
		S4	ER16	63	1-10	11	●	○	694.130E3A11
		S4	ER20	63	2-13	12	●	●	694.130E4A12
		S4	ER25	63	2-16	20	●	●	694.130E5A20
		S5	ER32	75	2-20	22	●	●	695.130E6A22

Collet chuck not included

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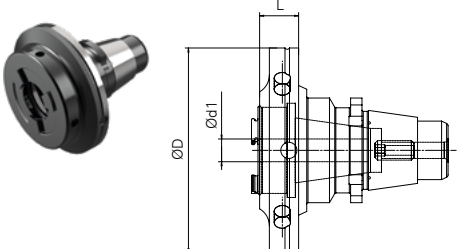
### COLLET CHUCK 8° TYPE ER | EXTERNAL CLAMPING NUT

Model	Drawing	Technical data		ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	Product center	Avail- ability	Order number
		Size	Type							
		S1	ER11M	32	1-7	16	20	●	●	691.130M120
		S1	ER16M	32	1-10	22	30	●	●	691.130M230
		S2	ER20M	40	2-13	28	31	●	●	692.130M331
		S2	ER20	40	2-13	34	31	●	●	692.130E431
		S3	ER16M	50	1-10	22	32	●	●	693.130M232
		S3	ER20	50	2-13	34	30	●	●	693.130E430
		S3	ER25	50	2-16	42	34	●	●	693.130E534
		S3	ER32	50	2-20	50	48	●	●	693.130E648
		S4	ER16M	63	1-10	22	30	●	○	694.130M232
		S4	ER25	63	2-16	42	35	●	○	694.130E535
		S4	ER32	63	2-20	50	39	●	●	694.130E639
		S5	ER32	75	2-20	50	40	●	●	695.130E640
		S5	ER40	75	3-26	63	46	●	●	695.130E746

Collet chuck not included

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### ULTRA-PRECISION COLLET CHUCK 8° TYPE ER | INTERNAL CLAMPING NUT

Model	Drawing	Technical data		ØD [mm]	Ød1 [mm]	L [mm]	Product center	Avail- ability	Order number
		Size	Type						
		S1	ER 16M	32	1-10	30	●	○	691.130M230UP
		S2	ER 16	40	1-10	13	●	○	692.130E3A13UP
		S3	ER 20	50	2-13	14	●	○	693.130E4A14UP
		S4	ER 25	63	2-16	20	●	○	694.130E5A20UP
		S5	ER 32	75	2-20	22	●	○	695.130E6A22UP

UP-collet chucks: differ versus standard collet chucks by being extremely precise for high speed machining

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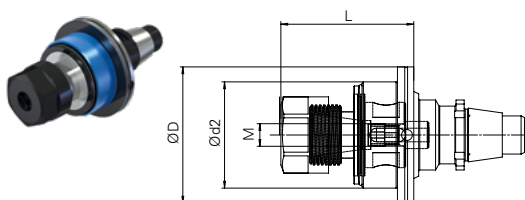
● PC Metal

● PC Wood

● on stock

○ on request

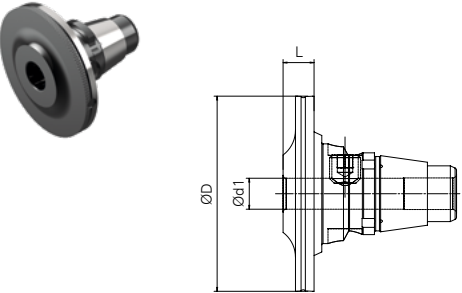
## TAPPING CHUCK | EMUGE

Model	Drawing	Technical data						Product center	Availability	Order number
		Size	Type	ØD [mm]	Ød2 [mm]	M [mm]	L* [mm]			
		S3	ER16	50	39	4-12	48,8	●	○	693.177E348
		S4	ER16	63	39	4-12	53,7	●	○	694.177E348
		S4	ER32	63	45	4-20	81	●	○	694.177E686

\* ±0,05

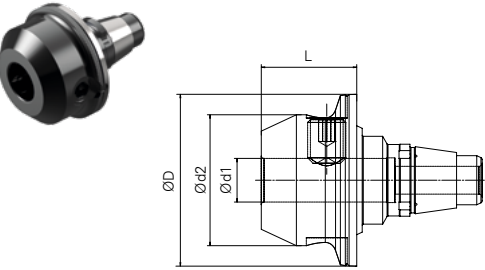
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## WELDON FOR PARALLEL SHANKS DIN 1835 B | SHORT DESIGN

Model	Drawing	Technical data				Product center	Availability	Order number
		Size	ØD [mm]	Ød1 [mm]	L [mm]			
		S1	32	3	4	●	○	691.1400304
		S1	32	4	5	●	○	691.1400405
		S2	40	4	5	●	○	692.1400405
		S2	40	6	7	●	○	692.1400607
		S3	50	6	6	●	●	693.1400606
		S3	50	8	8	●	●	694.1400808
		S4	63	6	7	●	●	694.1400607
		S4	63	8	8	●	●	694.1400808
		S4	63	10	10	●	●	694.1401010
		S4	63	12	12	●	●	694.1401212
		S5	75	6	10	●	○	695.1400610
		S5	75	8	10	●	●	695.1400810
		S5	75	10	10	●	●	695.1401010
		S5	75	12	10	●	●	695.1401210
		S5	75	14	12	●	○	695.1401412
		S5	75	16	12	●	●	695.1401612


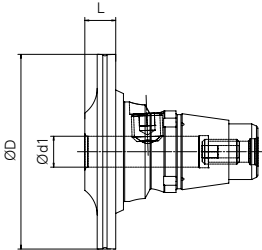
Minimum construction length

## WELDON FOR PARALLEL SHANKS DIN 1835 B | STANDARD DESIGN

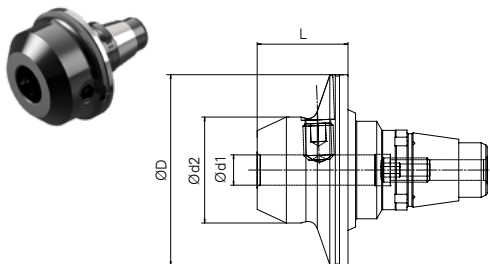
Model	Drawing	Technical data					Product center	Availability	Order number
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]			
		S1	32	6	25	24	●	○	691.1400624
		S2	40	8	28	25	●	○	692.1400825
		S3	50	10	35	28	● ●	●	693.1401028
		S3	50	12	42	32	● ●	●	693.1401232
		S3	50	16	48	35	● ●	●	693.1401635
		S4	63	14	48	32	●	●	694.1401432
		S4	63	16	48	35	●	●	694.1401635
		S4	63	18	50	35	●	○	694.1401835
		S4	63	20	52	38	●	●	694.1402038
		S4	63	25	63	52	●	○	694.1402552
		S5	75	18	50	36	●	○	695.1401836
		S5	75	20	52	38	●	○	695.1402038
		S5	75	25	65	40	●	●	695.1402540

# ADAPTER BENZ SOLIDFIX®

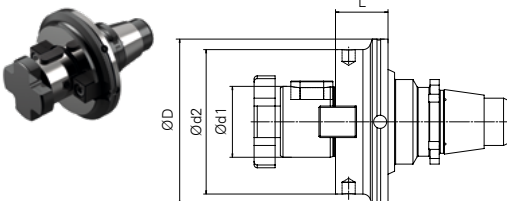
## WHISTLE NOTCH PARALLEL SHANKS DIN 1835 E | SHORT DESIGN

		Technical data				Product center	Availability	Order number
Model	Drawing	Size	ØD [mm]	Ød1 [mm]	L [mm]			
		S2	40	6	9	●	○	692.1410609
		S3	50	6	6	●	○	693.1410606
		S3	50	8	8	●	○	693.1410808
		S4	63	6	7	●	○	694.1410607
		S4	63	8	8	●	○	694.1410808
		S4	63	10	10	●	○	694.1411010
		S4	63	12	12	●	○	694.1411212
		S5	75	6	10	●	○	695.1410610
		S5	75	8	10	●	○	695.1410810
		S5	75	10	10	●	○	695.1411010
		S5	75	12	10	●	○	695.1411210
		S5	75	14	12	●	○	695.1411412
		S5	75	16	12	●	○	695.1411612
Minimum construction length								

## WHISTLE NOTCH PARALLEL SHANKS DIN 1835 E | STANDARD DESIGN

Model	Drawing	Technical data					Product center	Avail-ability	Order number
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]			
		S1	32	6	25	24	●	○	<a href="#">691.1410624</a>
		S2	40	8	28	25	●	○	<a href="#">692.1410825</a>
		S3	50	10	35	28	●	○	<a href="#">693.1411028</a>
		S3	50	12	42	32	●	○	<a href="#">693.1411232</a>
		S3	50	16	48	35	●	○	<a href="#">693.1411635</a>
		S4	63	14	48	32	●	○	<a href="#">694.1411432</a>
		S4	63	16	48	35	●	○	<a href="#">694.1411635</a>
		S4	63	18	50	35	●	○	<a href="#">694.1411835</a>
		S4	63	20	52	38	●	○	<a href="#">694.1412038</a>
		S5	75	18	50	36	●	○	<a href="#">695.1411836</a>
		S5	75	20	52	38	●	○	<a href="#">695.1412038</a>
		S5	75	25	65	40	●	○	<a href="#">695.1412540</a>

## MILLING ARBOR

		Technical data					Product center	Avail-ability	Order number
Model	Drawing	Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]			
		S2	40	16	34	11	●	●	692.2311611
		S3	50	16	34	12	●	○	693.2311612
		S3	50	22	48	14	●	●	693.2312214
		S4	63	16	34	14	●	○	694.2311614
		S4	63	22	48	14	●	●	694.2312214
		S4	63	27	55	14	●	●	694.2312714
		S5	75	22	48	12	●	○	695.2312212
		S5	75	27	55	14	●	○	695.2312714
		S5	75	32	62	15	●	○	695.2313215

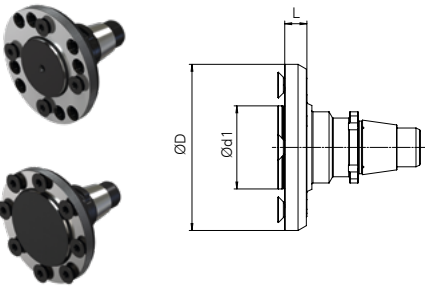
● PC Metal


● PC Wood

● on stock

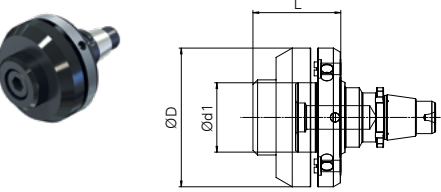
○ on request

## SAW BLADE HOLDER | SCREWED

Model	Drawing	Technical data					Product center	Availability	Order number
		Size	ØTK/M	ØD [mm]	Ød1 [mm]	L [mm]			
		S3	45 / 5	60	30	8	●	●	693.04030S0561
		S3	52 / 5	60	40	8	●	●	693.04040S0414

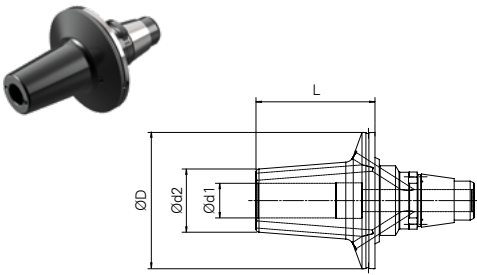
 Accessories page 28

## SAW BLADE HOLDER | ON ARBOR

Model	Drawing	Technical data					Product center	Availability	Order number
		Size	WZ-Länge [mm]	ØD [mm]	Ød1 [mm]	L [mm]			
		S3	1-6	60	30	38	●	●	693.040SD38

 Accessories page 28

## SHRINK FIT CHUCK | ONE-PIECE

Model	Drawing	Technical data					Product center	Availability	Order number
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]			
		S3	50	6	21	45	●	●	693.1520645KB
		S3	50	8	21	45	●	●	693.1520845KB
		S3	50	10	24	50	●	○	693.1521050KB
		S3	50	12	24	55	●	●	693.1521255KB
		S4	63	6	21	50	●	●	694.1520650KB
		S4	63	8	21	50	●	●	694.1520850KB
		S4	63	10	24	50	●	○	694.1521050KB
		S4	63	12	24	55	●	○	694.1521255KB
		S4	63	14	29	55	●	○	694.1521455KB
		S4	63	16	29	55	●	○	694.1521655KB
		S4	63	20	33	60	●	○	694.1522060KB
		S5	75	6	21	55	●	○	695.1520655KB
		S5	75	8	21	55	●	○	695.1520855KB
		S5	75	10	24	55	●	○	695.1521055KB
		S5	75	12	24	60	●	○	695.1521260KB
		S5	75	20	33	65	●	○	695.1522065KB
		S5	75	25	44	70	●	○	695.1522570KB


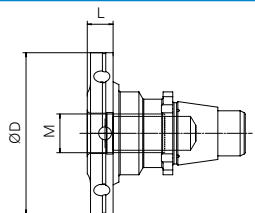
Coolant central or via holes on the collar (without coolant hole on request)

MQL-capable adapter on request

# ADAPTER


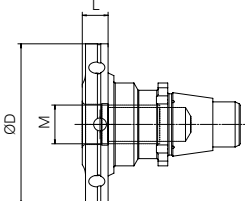
## BENZ SOLIDFIX®

### SCREW-IN MILL CUTTER - BASE HOLDER | SHORT DESIGN


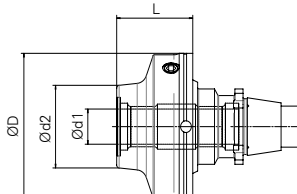
Model	Drawing	Technical data				Product center	Availability	Order number
		Size	ØD [mm]	M [mm]	L [mm]			
		S3	50	M10	8	●	○	693.2861008
		S3	50	M12	8	●	○	693.2861208
		S4	63	M12	9	●	○	694.2861209
		S4	63	M16	9	●	○	694.2861609
		S5	75	M12	10	●	○	695.2861210
		S5	75	M16	10	●	○	695.2861610

Base holder fits all standard threaded arbors (e.g. Seco, Kennametal...)

### SCREW-IN MILL CUTTER - BASE HOLDER | SHORT DESIGN - HAIMER

		Technical data								
Model	Drawing	BENZ Solidfix	Haimer Duolock	ØD [mm]	M [mm]	L [mm]	Product center	Avail- ability	BENZ Order number	HAIMER Order number
		S3	DL10	50	M10	8	●	○	<a href="#">693.2871008</a>	<a href="#">75.SFS3.DL10.080</a>
		S3	DL12	50	M12	8	●	○	<a href="#">693.2871208</a>	<a href="#">75.SFS3.DL12.080</a>
		S3	DL16	50	M16	8	●	○	<a href="#">693.2871608</a>	<a href="#">75.SFS3.DL16.080</a>
		S4	DL12	63	M12	9	●	○	<a href="#">694.2871209</a>	<a href="#">75.SFS4.DL12.080</a>
		S4	DL16	63	M16	9	●	○	<a href="#">694.2871609</a>	<a href="#">75.SFS4.DL16.080</a>
		S4	DL20	63	M20	9	●	○	<a href="#">694.2872009</a>	<a href="#">75.SFS4.DL20.080</a>
		S5	DL16	75	M16	10	●	○	<a href="#">695.2871610</a>	<a href="#">75.SFS5.DL16.080</a>
		S5	DL20	75	M20	10	●	○	<a href="#">695.2872010</a>	<a href="#">75.SFS5.DL20.080</a>
		S5	DL25	75	M25	10	●	○	<a href="#">695.2872510</a>	<a href="#">75.SFS5.DL25.080</a>

### HYDRO CLAMPING CHUCK | ONE-PIECE

Model	Drawing	Technical data					Product center	Avail-ability	Order number
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]			
		S3	50	6	28	18	●	○	693.1580618
		S3	50	10	28	23	●	○	693.1581023
		S3	50	12	28	28	●	●	693.1581228
		S4	63	06	28	20	●	○	694.1580620
		S4	63	12	28	28	●	●	694.1581228
		S4	63	20	28	42	●	○	694.1582042
		S5	75	16	38	30	●	○	695.1581630
		S5	75	20	38	30	●	●	695.1582030

Version two-part with Hydrostar-insert on request



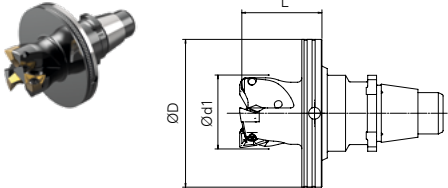
● PC Metal

● PC Wood

● on stock

○ on request

## SQUARE SHOULDER | PLUNGE MILL

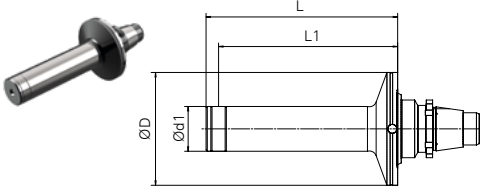
Model	Drawing	Technical data				Product center	Availability	Order number
		Size	ØD [mm]	Ød1 [mm]	L [mm]			
		S3	50	25	28	●	○	693.6502528S001
		S4	63	32	33	●	○	694.6503233S001

Cooperation with



Indexable inserts not included in scope of supply / Can be supplied by Paul Horn GmbH (Type DA32)

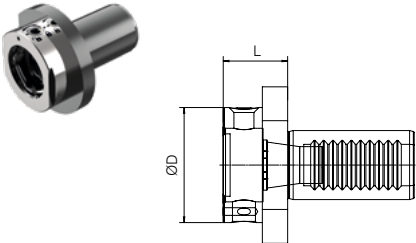
## TEST MANDREL

Model	Drawing	Technical data					Product center	Availability	Order number
		Size	ØD [mm]	Ød1 [mm]	L [mm]	*L1 [mm]			
		S1	32	12	55	50	●	●	691.2471255
		S2	40	16	68	63	●	●	692.2471668
		S3	50	20	87	80	●	●	693.2472087
		S4	63	25	107	100	●	●	694.24725107
		S5	75	32	134	125	●	●	695.24732134

Scope of supply: Test mandrel in case with test certificate

\*Measuring point

## MASTER SHANK / BASE HOLDER | VDI

Model	Drawing	Technical data				IC	Product center	Availability	Order number
		Size	Type	ØD [mm]	L [mm]				
		S1	VDI 20	32	22		●	○	112.251S1022VE
		S2	VDI 25	40	25		●	○	325.251S2025VE
		S3	VDI 30	50	25		●	○	113.251S2025VE
		S3	VDI 30	50	32	✓	●	●	113.251S3032R
		S4	VDI 40	63	28		●	○	114.251S3028VE
		S4	VDI 40	63	30		●	○	114.251S4030VE
		S4	VDI 40	63	32	✓	●	●	114.251S4032R
		S5	VDI 50	75	32		●	○	115.251S5032VE
		S5	VDI 50	75	35	✓	●	●	115.251S5035R













## MASTER SHANK | HSK

Model	Drawing	Technical data		ØD [mm]	L [mm]	Product center	Avail- ability	Order number
		Size	Type					
		S1	HSK 63-A	32	55	●	○	711.251S1055VE
		S2	HSK 63-A	40	62	●	○	711.251S2062VE
		S3	HSK 63-A	50	70	●	●	711.251S3070VE
		S4	HSK 63-A	63	75	●	●	711.251S4075VE
		S5	HSK 63-A	75	80	●	○	711.251S5080VE
		S3	HSK 63-F	50	70	●	●	727.251S3070VE
		S4	HSK 100-A	63	80	●	○	713.251S4080VE
		S5	HSK 100-A	75	90	●	○	713.251S5090VE

## MASTER SHANK | SK

Model	Drawing	Technical data		ØD [mm]	L [mm]	Product center	Avail- ability	Order number
		Size	Type					
		S1	SK 30	32	30	●	○	090.251S1030VE
		S2	SK 30	40	40	●	○	090.251S2040VE
		S3	SK 40	50	42	●	●	040.251S3042VE
		S4	SK 40	63	55	●	●	040.251S4055VE
		S5	SK 50	75	52	●	○	042.251S5052VE

## MOUNTING BLOCK

		Technical data				Product center	Availability	Order number
Model	Drawing	Size	ØD [mm]	Ød1 [mm]	L [mm]			
		S1	62	31	30			B300-4-S1
		S2	67	40	38			B300-4-S2
		S3	82	50	44	 		B300-4-S3
		S4	96	65	50			B300-4-S4
		S5	116	75	60			B300-4-S5

No integrated clamping mechanism

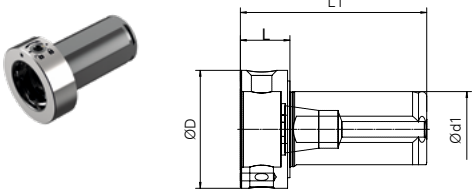
● PC Metal

● PC Wood

● on stock

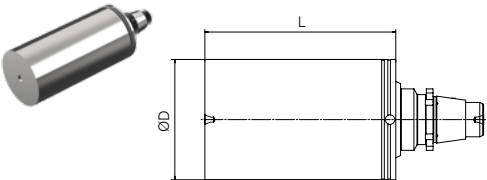
○ on request

## REDUCING SLEEVE

Model	Drawing	Technical data					Product center	Availability	Order number
		Size	ØD [mm]	Ød1 [mm]	L [mm]	L1 [mm]			
		S2	40	25	17	65	●	○	B570-25S2
		S3	50	32	21	79	●	●	B570-32S3
		S4	63	40	22	94	●	●	B570-40S4

Used for boring bars or combination holders

## BLANK

Model	Drawing	Technical data			Product center	Availability	Order number
		Size	ØD [mm]	L [mm]			
		S1	32	63	●	○	691.1023263
		S2	40	80	●	●	692.1024080
		S3	50	100	● ●	●	693.10250100
		S4	63	125	●	●	694.10263125
		S5	75	160	●	●	695.10275160

## CLOSING PLUG

Model	Drawing	Technical data			Product center	Availability	Order number
		Size	ØD [mm]	L [mm]			
		S1	32	3,5	●	○	691.581S
		S2	40	4	●	○	692.581S
		S3	50	5	●	● ●	693.581S
		S4	63	6	●	●	694.581S
		S5	75	8	●	●	695.581S

made of Steel



# BENZ CAPTO™

Adapters

## BENZ CAPTO™



COLLET CHUCK  
8° Type ER

26



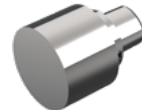
WELDON  
for parallel shanks DIN 1835B

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MILLING ARBOR

27



BLANK

27



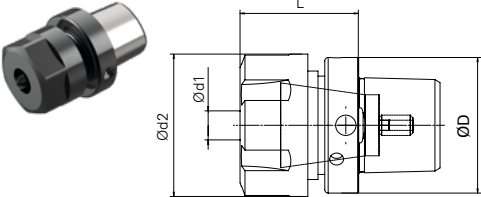
CLOSING PLUG

27

# ADAPTER

## BENZ CAPTO™

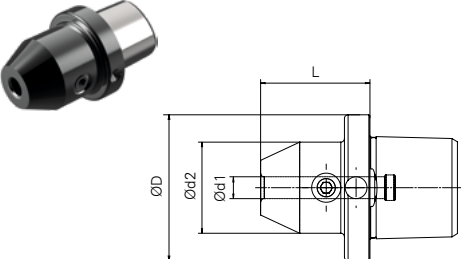
### COLLET CHUCK 8° TYPE ER | EXTERNAL CLAMPING NUT

Model	Drawing	Technical data						Product center	Availability	Order number
		Size	Type	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]			
		C3	ER11	32	1-7	19	22	●	●	550.130E122
		C3	ER16	32	1-10	28	30	●	●	550.130E330
		C3	ER20	32	2-13	34	35	●	●	550.130E435
		C3	ER25	32	2-16	42	44	●	●	550.130E544
		C4	ER16	40	1-10	28	27	●	○	551.130E327
		C4	ER20	40	2-13	34	32	●	○	551.130E432
		C4	ER25	40	2-16	42	35	●	●	551.130E535
		C4	ER32	40	2-20	50	52	●	●	551.130E652
		C5	ER16	50	1-10	28	29	●	○	552.130E329
		C5	ER25	50	2-16	42	34	●	○	552.130E534
		C5	ER32	50	2-20	50	41	●	●	552.130E641
		C5	ER40	50	3-26	63	58	●	○	552.130E758
		C6	ER32	63	3-26	63	40	●	○	553.130E640
		C6	ER40	63	3-26	63	46	●	○	553.130E746

without gripper groove

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### WELDON FOR PARALLEL SHANKS DIN 1835 B | STANDARD DESIGN

Model	Drawing	Technical data					Product center	Avail-ability	Order number
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]			
		C3	32	6	25	33	●	●	550.1400633
		C3	32	8	28	33	●	●	550.1400833
		C3	32	10	35	37	●	●	550.1401037
		C3	32	12	42	42	●	●	550.1401242
		C3	32	14	44	43	●	○	550.1401443
		C3	32	16	48	51	●	●	550.1401651
		C4	40	6	25	30	●	●	551.1400630
		C4	40	8	28	30	●	●	551.1400830
		C4	40	10	35	34	●	●	551.1401034
		C4	40	12	42	39	●	●	551.1401239
		C4	40	14	44	39	●	○	551.1401439
		C4	40	16	48	43	●	●	551.1401643
		C4	40	18	50	43	●	○	551.1401843
		C4	40	20	52	45	●	●	551.1402045
		C5	50	6	25	29	●	○	552.1400629
		C5	50	8	28	29	●	○	552.1400829
		C5	50	10	35	33	●	○	552.1401033
		C5	50	12	42	38	●	○	552.1401238
		C5	50	14	44	38	●	○	552.1401438
		C5	50	16	48	41	●	○	552.1401641
		C5	50	18	50	42	●	○	552.1401842
		C5	50	20	52	44	●	○	552.1402044
		C5	50	25	65	52	●	○	552.1402552
		C6	63	6	25	28	●	○	553.1400628
		C6	63	8	28	28	●	○	553.1400828
		C6	63	1	35	32	●	○	553.1401032
		C6	63	12	42	37	●	○	553.1401237
		C6	63	14	44	37	●	○	553.1401437
		C6	63	16	48	40	●	○	553.1401640
		C6	63	18	50	41	●	○	553.1401841
		C6	63	20	52	43	●	○	553.1402043
		C6	63	25	65	52	●	○	553.1402552

without gripper groove



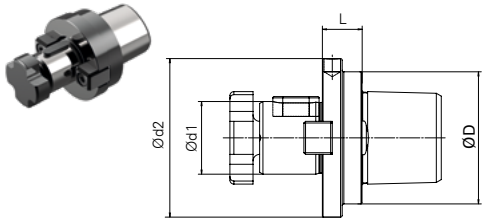
● PC Metal

● PC Wood

● on stock

○ on request

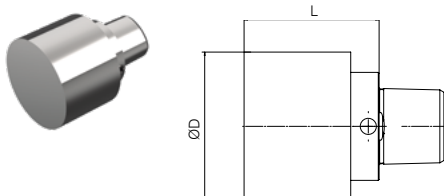
## MILLING ARBOR

Model	Drawing	Technical data					Product center	Availability	Order number
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]			
		C3	32	16	34	13	●	●	550.2311613
		C3	32	22	48	17	●	●	550.2312217
		C4	40	22	48	16	●	○	551.2312216
		C4	40	27	51	19	●	○	551.2312719
		C5	50	27	55	11	●	○	552.2312711
		C5	50	32	62	22	●	○	552.2313222
		C6	63	27	63	11	●	○	553.2312711
		C6	63	32	63	16	●	○	553.2313216

without gripper groove

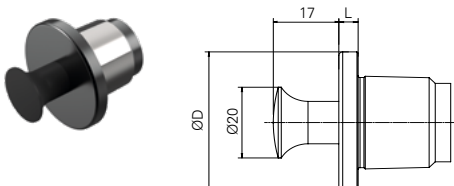
 Accessories page 28

## BLANK

		Technical data			Product center	Availability	Order number
Model	Drawing	Size	ØD [mm]	L [mm]			
		C3	47	50	●	○	550.1024750
		C4	57	63	●	●	551.1025763
		C5	72	67	●	○	552.1027267
		C6	92	67	●	○	553.1029267

ohne Greiferrille

## CLOSING PLUG

		Technical data					
Model	Drawing	Size	ØD [mm]	L [mm]	Product center	Avail-ability	Order number
		C3	32	5	●	●	550.581S
		C4	40	5	●	●	551.581S
		C5	50	6	●	○	552.581S
		C6	63	7	●	○	553.581S

made of steel

# ACCESSORIES

Collet Chuck | Wrenches | Miscellaneous



## COLLET CHUCK



CLAMPING NUT

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SEAL RING

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COLLET CHUCK

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## WRENCHES



COLLET WRENCH

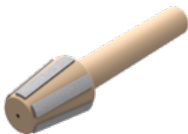
32



INBUS T-WRENCH

33

## ACCESSORIES



TAPERCLEANER  
BENZ Solidfix® / Collet Chuck

33



KEY BLOCK DIN2097

33




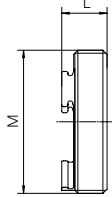












REDUCING SLEEVE  
COOLANT NOZZLE

34


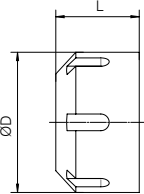










# ACCESSORIES

## CLAMPING NUT


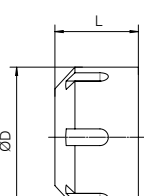














### CLAMPING NUT | INTERNAL

Model	Drawing	Technical data			Product center	Availability	Order number
		Size Collet chuck	M	L [mm]			
		ER 11	M18x1	7,5			B135-E1AX
		ER 16	M24x1	7,6			B135-E3AX
		ER 20	M28x1,5	8,5			B135-E4AX
		ER 25	M32x1,5	8,8			B135-E5AX
		ER 32	M40x1,5	9,8			B135-E6AX
		ER 40	M50x1,5	11,7			B135-E7AX

### CLAMPING NUT | EXTERNAL – MINI VERSION


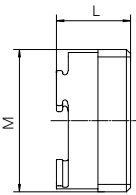










Model	Drawing	Technical data			Product center	Availability	Order number
		Size Collet chuck	ØD [mm]	L [mm]			
		ER 8M	12	10,8			B135-M0
		ER 11M	16	12			B135-M1
		ER 16M	22	18,4			B135-M2
		ER 20M	28	19			B135-M3
		ER 25M	35	20			B135-M3

### CLAMPING NUT | EXTERNAL

Model	Drawing	Technical data			Product center	Availability	Order number
		Size Collet chuck	ØD [mm]	L [mm]			
		ER 11	19	11,3			B135-E1*
		ER 16	28	17,5			B135-E3*
		ER 20	34	19			B135-E4*
		ER 25	42	20			B135-E5
		ER 32	50	22,5			B135-E6
		ER 40	63	25,5			B135-E7
		ER 50	78	35,5			B135-E8

\*illustrations deviate

### CLAMPING NUT | INTERNAL – SYSTEM REGOFIX FOR TOOLS WITH INTERNAL COOLANT

Model	Drawing	Technical data			Product center	Availability	Order number
		Size Collet chuck	M	L [mm]			
		ER 16	M24x1	12,5			B135-E3AXC
		ER 20	M28x1,5	13,5			B135-E4AXC
		ER 25	M32x1,5	13,8			B135-E5AXC
		ER 32	M40x1,5	14,9			B135-E6AXC
		ER 40	M50x1,5	16,6			B135-E7AXC

● PC Metal


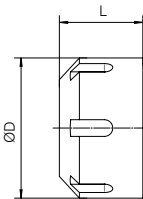
● PC Wood

● on stock


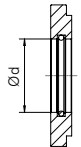
○ on request

## CLAMPING NUT | EXTERNAL - SYSTEM REGOFIX

FOR TOOLS WITH INTERNAL COOLANT

Model	Drawing	Technical data			Product center	Availability	Order number
		Size Collet chuck	ØD [mm]	L [mm]			
		ER 16	28	22,5	● ●	●	B135-H3A
		ER 20	34	24	● ●	●	B135-H4A
		ER 25	42	25	● ●	●	B135-H5A
		ER 32	50	27,5	● ●	●	B135-H6A
		ER 40	63	30,5	● ●	●	B135-H7A


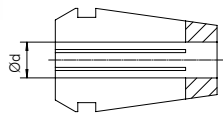
## SEAL RING

Model	Drawing	Technical data			Product center	Availability	Order number
		Size Spzge	Ød [mm]	Steigung [mm]			
		ER 16	1-10	0,5	● ●	○	B137-E3-...
		ER 20	1-13	0,5	● ●	○	B137-E4-...
		ER 25	2-16	0,5	● ●	○	B137-E5-...
		ER 32	2-20	0,5	● ●	○	B137-E6-...
		ER 40	4-26	0,5	● ●	○	B137-E7-...

Sealing range can be used up to 0.5 mm smaller than nominal dimension d

Example: B137-E3-0600

## COLLET CHUCK | REGOFIX FORM B


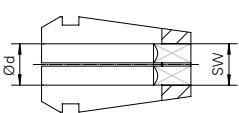
Model	Drawing	Technical data			Product center	Availability	Order number
		Size Spannz.	Ød [mm]	Steigung [mm]			
		ER 11	1-7	0,5	● ●	○	B134-424E-...
		ER 16	1-10	0,5	● ●	○	B134-426E-...
		ER 20	1-13	1	● ●	○	B134-428E-...
		ER 25	1-16	1	● ●	○	B134-430E-...
		ER 32	3-20	1	● ●	○	B134-470E-...
		ER 40	4-26	1	● ●	○	B134-472E-...

<sup>1</sup> Collet chuck can clamping up to 0,5 mm smaller as nominal range d

<sup>2</sup> Collet chuck can clamping up to 1 mm smaller as nominal range d

Example: B134-424E-0600

## COLLET CHUCK FOR TAP | REGOFIX WITH INTERNAL SQUARE SECTION


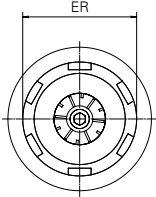














Model	Drawing	Technical data			Product center	Availability	Order number
		Size Collet	Ød [mm]	SW [mm]			
		ER 16	4-10	3,15-7	● ●	○	B134-E3...
		ER 20	4-13	3,15-9	● ●	○	B134-E4...
		ER 25	4-16	3,15-16	● ●	○	B134-E5...
		ER 32	4-20	3,15-20	● ●	○	B134-E6...
		ER 40	6-22	6-22	● ●	○	B134-E7...

Example: B134-E3-060049


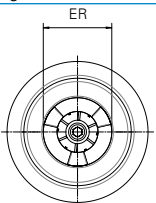












# ACCESSORIES

## WRENCHES


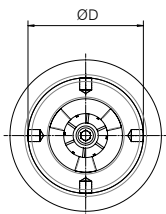


























### CLAMPING WRENCH | EXTERNAL CLAMPING NUT

Model	Drawing	Technical data	Product center	Availability	Order number
		Size Spannzange			
		ER 11M			B136-M1
		ER 16M			B136-M3
		ER 20M			B136-M3
		ER 20			B136-E4
		ER 25			B136-E5
		ER 32			B136-E6
		ER 40			B136-E7


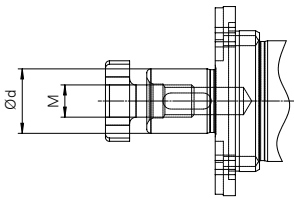








### CLAMPING WRENCH | INTERNAL CLAMPING NUT

Model	Drawing	Technical data	Product center	Availability	Order number
		Size Spannzange			
		ER 11			B136-E1AX
		ER 16			B136-E3AX
		ER 20			B136-E4AX
		ER 25			B136-E5AX
		ER 32			B136-E6AX
		ER 40			B136-E7AX

### HOOK WRENCH

Model	Drawing	Technical data	Product center	Availability	Order number
		ØD Spindle			
		12-14			D01810B012014
		16-18			D01810B016018
		20-22			D01810B020022
		25-28			D01810B025028
		30-32			D01810B030032
		34-36			D01810B034036
		40-42			D01810B040042
		45-50			D01810B045050
		52-55			D01810B052055
		58-62			D01810B058062
		68-75			D01810B068075
		80-90			D01810B080090
		95-100			D01810B095100

### WRENCH DIN 6368 | FOR CROSS RETAINING SCREWS

Model	Drawing	Technical data		Product center	Availability	Order number
		ØD Milling arbor	M Thread			
		16	8			D06368-080
		22	10			D06368-100
		27	12			D06368-120
		32	16			D06368-160




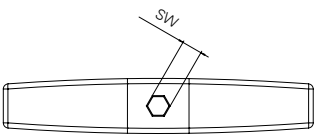
● PC Metal

● PC Wood

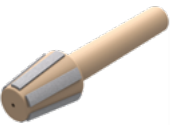
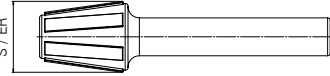
● on stock

○ on request


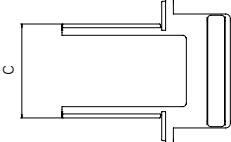
## INBUS T-WRENCH | FOR BENZ SOLIDFIX® UND BENZ CAPTO™ ACTUATION

Model	Drawing	Technical data		SW	Product center	Availability	Order number
		Size BENZ Solidfix®	Size BENZ CAPTO™				
		S1		3	●	●	KL8317-45039-SW3
		S2		4	●	●	KL8317-44982-SW4
		S3		5	●	●	KL8317-45013-SW5
		S4 / S5	C3	6	●	●	KL8317-45039-SW6
			C4	8	●	●	KL8317-45039-SW8
			C5	10	●	●	KL8317-45039-SW10
			C6	12	●	●	KL8317-45112-SW12


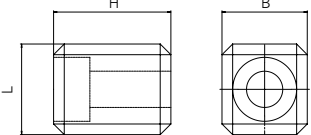
## TAPER CLEANER | BENZ SOLIDFIX® / COLLET CHUCK

Model	Drawing	Technical data		Product center	Availability	Order number
		Size BENZ Solidfix®	Size Collet chuck			
		S1	ER 11	●	○	B069-ER16
		S2	ER 16	●	○	B069-ER16
		S3	ER 20	●	○	B069-ER20
		S4	ER 25	●	○	B069-ER25
		S5	ER 32	●	○	B069-ER32

## TAPER CLEANER | BENZ CAPTO™

Model	Drawing	Technical data		Product center	Availability	Order number
		Size BENZ CAPTO™				
		C3		●	○	B069-C3
		C4		●	○	B069-C4
		C5		●	○	B069-C5
		C6		●	○	B069-C6
		C8		●	○	B069-C8

## KEY BLOCK DIN 2097 | FOR MILLING ARBORS

Model	Drawing	Technical data				Product center	Availability	Order number
		Ød1 [mm]	L [mm]	B [mm]	H [mm]			
		16	8,5	8	11	●	●	B245-66
		22	11	10	8,6	●	●	B245-81
		27	10	12	9,3	●	●	B245-126
		32	12	14	14	●	●	B245-117

# ACCESORIES

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## FURTHER ACCESSORIES ON REQUEST

### COOLANT NOZZLE



Verschiedene Varianten

### REDUCING SLEEVES

VDI













Verschiedene Sizen und Varianten

Please contact our [BENZ sales team](#).

# PICTOGRAMS & ABBREVIATIONS

## OVERVIEW

	OTHER-SPECIFICATION	ABBREVIATIONS
System advantages	 Set-up time	$M_{max}$ Maximum torque
	 Investment	$i$ Gear ratio
Adapter options	 Easy to handle	$n_{max}$ Maximum speed
	 Safe to handle	$p_{max}$ Maximum pressure (bar)
Common information	 IC- capable	<b>EC</b> External cooling
	 MQL-capable	<b>IC</b> Internal cooling
	 Info	<b>p.</b> Page
	 Video	✓ Possible
	 Service	- Not possible
	 Accessories	<b>SW</b> Width across flats
		<b>mm</b> Millimeter

# BENZ PRODUCT WORLD

## TOOLING & MACHINE TOOLING TECHNOLOGY

### TOOLING TECHNOLOGY



METAL

#### TOOLS FOR TURNING CENTERS LIVE TOOLS / STATIC TOOLS

- Radial heads 90°
- Radial heads ≠ 90°
- Axial heads
- Swivel heads
- Multi-spindle heads
- Broaching units
- Static tools

COMPONENTS. Our comprehensive tool concepts for turning centers and milling centers are ideal for nearly every application. Providing a technological advantage is our goal.

SPECIFIC TO THE CUSTOMER. Our modular approach enables customized configurations.

SYSTEMS. We develop special customer-specific tools for OEM and end customers on request.



METAL

#### TOOLS FOR MACHINING CENTERS

- Angle heads 90°
- Angle heads ≠ 90°
- Swivel heads
- Multi-spindle heads
- Broaching units
- High-speed spindles
- Rotating tool holders

KNOWLEDGE AND EXPERIENCE. Our knowledge of the metalworking industry and decades of development partnership make us ideal for new tasks anywhere in the world.

COMPONENTS. We deliver a vast array of standard components from stock and develop innovative, customized systems for OEM and end customers.

VARIETY. Whether in machining centers in the automotive, aerospace or wind energy industries, units from BENZ can be used anywhere. Numerous customers choose us as their systems and innovation partner.



WOOD / COMPOSITE AND ALUMINIUM

#### TOOLS FOR MACHINING CENTERS

- Angle heads 90°
- Swivel heads
- Multi-spindle heads
- Multi-axis heads
- Sanding units
- Floating head units
- Rotating tool holders

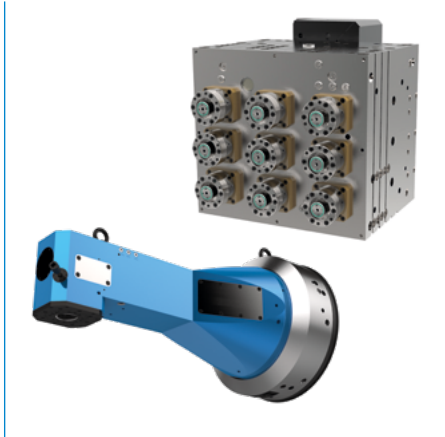
FOR ANY APPLICATION. Cost-effectively process and machine wood, composites and aluminium: We provide series production angle heads for drilling, milling, sawing and grinding in addition to other units for special applications.

FROM BASIC TO HIGH-END. BENZ units are available in a variety of performance classes, making them ideal for everything from light machining to high-performance continuous operation.

SYSTEMS. We have the solution for your special applications: Customized BENZ units for machining centers. Put us to the test!



## MACHINE TOOLING TECHNOLOGY



METAL

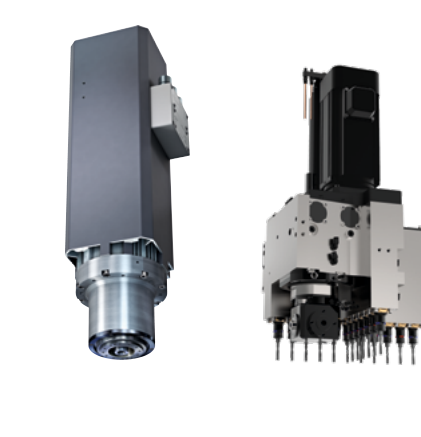
### MULTI-SPINDLE HEADS AND LARGE DRILL HEADS

- Large angle heads
- Large drill heads
- XXL multi-spindle heads

DEVELOPMENT PARTNER. We accompany you from brainstorming to inspection of the final machine, always to your expectations. Our assortment ranges from compact heads to XXL units.

SYSTEMS. BENZ stands for high-end solutions in the fields of machine tooling technology, specialty solutions, custom assemblies and mechanical modules. We manufacture and configure multiple-spindle and large-angle heads as well as large drill heads.

COMPONENTS. Attachment units complete our range.



METAL / WOOD / COMPOSITE AND ALUMINIUM

### SYSTEM TECHNOLOGY

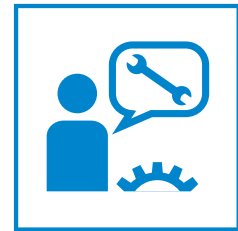
- Multiple-spindle drill heads
- Motor spindles
- Motors
- 5-axis technology
- C-axes
- Swivel axes
- Rotary distributors
- Z-axes

COMPONENTS. Our range includes standard products in an assortment of shapes and sizes.

THE PERFECT ADDITION. Our system additions provide you with even more efficiency. Perfect your existing solutions with BENZ products!

SYSTEMS. We develop the technology of tomorrow. Your individual requirements for the efficiency of your machine tools and the suitability of the tools in use provide our benchmark for new, innovative solutions.

## SERVICE



METAL / WOOD / COMPOSITE AND ALUMINIUM

### SERVICE

- Service evaluation and repair
- Express Service (Wood)
- Rapid Repair Kit
- Preventive maintenance
- Spare part management
- Worldwide on-site service

DO NOT LOSE A SECOND. Speed is the order of the day when unexpected breakdowns occur. Our service center ensures Immediate assistance around the world. We ensure your machine has as little downtime as possible.

SERVICE QUALITY. We guarantee top service quality reflecting our expertise as a manufacturer.

FORESIGHT. We go one step further: Preventive maintenance, customized Rapid Repair Kit and our spare part management service ensure you have the best setup to face any emergency. We look to the future to keep you at your peak.

## ARE YOU ALREADY FAMILIAR WITH OUR EXPERTISE?

---

- TEAMS OF EXPERTS WITH INDUSTRY EXPERIENCE
- INTERNATIONALLY NETWORKED THROUGH WORLD-WIDE LOCATIONS AND PARTNERS
- THE HIGHEST QUALITY FOR ALL PRODUCTS AND SERVICES
- PRECISE, CUSTOMER-SPECIFIC SOLUTIONS
- CONSTANT DEVELOPMENT OF OUR INDUSTRY EXPERTISE

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We also declare that the specific technical documents were produced in accordance with Annex VII Part B of this Directive. We undertake to provide the market supervisory bodies with versions of the incomplete machine's special documents via our documentation department should they have reason to request them.

The incomplete machine also satisfies the stipulations of EC Directive 2014/30/EU on electromagnetic compatibility. The protective goals of EC Directive 2014/35/EU regarding electronic equipment have been met.

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The contents and data are valid at the time of printing. Edition 12/2023

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